4/9/2003

Chase Anderson-Director
Division Solid Waste
Metro Nashville
939 Dr. Richard Adams Dr.
Nashville, TN 37207

*RE: **Major Modification Request***
Central Pike Class IV Landfill
TDSMW Permit # DML 19-102-0090

Mr. Anderson:

Attached, please find the proposed vertical expansion drawings for the Central Pike Class IV Landfill. Approximately 86,515 cubic yards of waste placement volume will be added under this proposed major modification. This should provide an additional nine months of operation to the present site. Addendums and modifications to the Closure / Post Closure Plan and the Financial Assurance Worksheets are attached with this request.

If you should have any questions or if additional clarification is necessary, please feel free to contact Jo House at 333 – 7797. I appreciate your attention to this matter and look forward to hearing from you soon.

Respectfully Submitted,
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Jo K. House, P.G. P.E.
Principal / Senior Environmental Engineer

JKH/sl

Attachments

MAJOR MODIFICATION OF THE CENTRAL PIKE LANDFILL

This major modification consists of a vertical expansion of the existing Central Pike Landfill located just off Central Pike in Hermitage, Tennessee. Cross-Sections at 100 foot intervals are provided with this report that illustrate the existing and proposed final contours. In addition, spreadsheets are attached that provide detailed information regarding volumes and end areas. The information presented in the spreadsheets can be utilized to check the volumes by applying the end area method to calculate quantities. Cross sections are labeled by station numbers and are provided at 100-foot intervals for the length of the waste fill embankment. A summary table of the presently permitted waste fill volume, proposed waste fill volume and the additional cover soil quantity required for closure are included.

TABLE ONE

DESCRIPTION	VOLUME CU YDS.
Present Permitted Waste Volume	220,566
Proposed Waste Volume from Proposed Vertical Expansion	307,643
Additional Waste Volume Provided by the Vertical Expansion	87,077
Additional Cover Soil Required for Closure of Vertical Expansion	13,572

As previously mentioned the increased air space provided by the vertical expansion is estimated to extend the life of the facility an additional nine months.

This major modification will require an adjustment of the closure costs due to the increase in cover soil requirements. Worksheets A and B have been revised to reflect the increase in cover soil required to close the site as well as the current developmental status of the landfill. Table Two provides a summary of the original and adjusted closure/post-closure costs. In addition, worksheets A and B are included as part of this document.

TABLE TWO

DESCRIPTION	ANNUAL COSTS
Original Closure Costs	**$76,539**
Adjusted Closure Costs as of 9-2002	**$48,106**
Original Post-Closure Costs	**$2,600**
Post-Closure Costs as of 9-2002	**$4,720**

CENTRAL PIKE LANDFILL

PHASE 1 OF THE CENTRAL PIKE LANDFILL

ORIGINAL WASTE AIR SPACE VOLUMES

VOLUME CALCULATIONS

STA.	DISTANCE	AREA S.F.	AVG. AREA S.F.	VOL C.Y.	ACCUM. VOL. C.Y.
-90+00		0			
	50		2,031	3,762	3,762
-50+00		4,063			
	50		4,142	7,670	11,432
00+00		4,221			
	100		5,197	19,249	30,681
1+00		6,174			
	100		6,653	24,639	55,320
2+00		7,131			
	50		7,729	14,313	69,633
2+50		8,326			
	100		8,506	31,502	101,135
3+50		8,685			
	100		8,417	31,173	132,308
4+50		8,149			
	100		7,673	28,420	160,728
5+50		7,198			
	100		6,638	24,585	185,313
6+50		6,078			
	50		5,643	10,451	195,764
7+00		5,209			
	100		4,543	16,827	212,591
8+00		3,878			
	50		2,973	5,505	218,096
8+50		2,068			
	50		1,184	2,192	220,288
9+00		300			
	50		150	278	220,566
9+50		0			

TOTAL VOLUME = 220,566 CUBIC YARDS

CENTRAL PIKE LANDFILL VERTICAL EXPANSION

PHASE I OF THE CENTRAL PIKE LANDFILL

WASTE DISPOSAL VOLUME CALCULATIONS

VOLUME CALCULATIONS

STA.	DISTANCE	AREA S.F.	AVG. AREA S.F.	VOL C.Y.	ACCUM. VOL. C.Y.
-90+00		0			
	50		2,031	4,837	4,837
-50+00		4,063			
	50		5,894	10,916	15,752
00+00		7,726			
	100		9,369	34,701	50,453
1+00		11,012			
	100		12,069	44,701	95,154
2+00		13,126			
	50		13,524	25,044	120,198
2+50		13,921			
	100		12,837	47,545	167,743
3+50		11,753			
	100		10,815	40,056	207,798
4+50		9,877			
	100		9,244	34,239	242,037
5+50		8,612			
	100		7,667	28,397	270,434
6+50		6,722			
	50		6,096	11,288	281,722
7+00		5,470			
	100		4,788	17,734	299,456
8+00		4,107			
	50		3,087	5,717	305,173
8+50		2,068			
	50		1,184	2,192	307,365
9+00		300			
	50		150	278	307,643
9+50		0			

TOTAL VOLUME = 307,643 CUBIC YARDS

CENTRAL PIKE LANDFILL VERTICAL EXPANSION

PHASE 1 OF THE CENTRAL PIKE LANDFILL

ADDITIONAL VOLUME OF SOIL COVER REQUIRED

VOLUME CALCULATIONS

STA.	DISTANCE	AREA S.F.	AVG. AREA S.F.	VOL C.Y.	ACCUM. VOL. C.Y.
-90+00		0			
	50		0	0	0
-50+00		0			
	50		333	617	617
00+00		667			
	100		641	2,374	2,991
1+00		615			
	100		657	2,435	5,426
2+00		700			
	50		684	1,267	6,693
2+50		669			
	100		582	2,156	8,849
3+50		495			
	100		437	1,620	10,468
4+50		379			
	100		356	1,319	11,787
5+50		333			
	100		289	1,070	12,857
6+50		245			
	50		210	389	13,247
7+00		176			
	100		88	325	13,572
8+00		0			
	50		0	0	13,572
8+50		0			
	50		0	0	13,572
9+00		0			
	50		0	0	13,572
9+50		0			

TOTAL VOLUME = 13,572 CUBIC YARDS

WORKSHEET A
CLOSURE ACTIVITIES for the Central Pike Class IV Landfill
Civil and Environmental Consultants
Cost Estimate for Closure of the Remaining Cells

Notes:

1. *This worksheet is to be submitted as part of the C/PC Plan.*
2. *Provide a cost for all activities which apply.*
3. *Additional cost information may be attached as needed.*

1. *ESTABLISHING FINAL COVER*

A. Top Soil

a. Quantity needed (yd ^ 3)	7,100.0
b. Excavation unit cost ($/yd ^ 3)	$1.40
c. Excavation cost (a. x b.)	$9,940.00
d. Placement/spreading unit cost ($/yd ^ 3)	$1.00
e. Placement cost (a. x d.)	$7,100.00
Total Top Soil (c. + e.)	$17,040.00

B. Landfill Cap

1. On-Site Clay

a. Quantity needed (yd^3)	10,650.00
b. Excavation unit cost ($/$yd^3$)	$1.40
c. Excavation cost (a. x b.)	$14,910.00
d. Placement/spreading unit cost ($/$yd^3$)	$0.68
e. Placement cost (a. x d.)	$7,242.00
f. Compaction unit cost ($/$yd^3$)	$0.68
g. Compaction cost (a. x f.)	$7,242.00
Total On-Site Clay (c. + e. + g.)	$29,394.00

2. GCL over top deck only

a. Quantity needed (ft^2)	0.00
b. GCL unit cost ($/$ft^2$)	$0.39
Total GCL (a* b)	$0.00

3. CQA

a. Number of acres for CQA	4.4
c. CQA costs per acre	$80.00
Total CQA for LANDFILL COVER (a* b)	$352.00
Total Landfill Cap	$29,746.00
TOTAL For Establishing Final Cover: (A+B+C+D)	$46,786.00

2. *ESTABLISHING VEGETATIVE COVER*

A. Labor ($/acre)	$100.00
B. Seeding ($/acre)	$75.00
C. Fertilizing ($/acre)	$75.00
D. Mulching ($/acre)	$50.00
E. Number of acres	4.40

TOTAL For Establishing Vegetative Cover: (A+B+C+D) $1,320.00

3. *ESTABLISHING OR COMPLETING A SYSTEM TO MINIMIZE AND CONTROL EROSION/SEDIMENTATION*

A. Sediment Pond and Constructed Wetlands

1. Excavation Quantity (cubic yards)	0
2. Cost per cubic yard ($)	$0.00
3. Principal Spillway and associated appurtenances ($)	$0.00

Total (1. + 2.) $0.00

B. Side Slope Swale

1. Lineal feet of swale	0
2. Earthwork per foot ($)	$0.00
3. Turf Reinforcement Mat per foot ($)	$0.00

Total (1. x (2. + 3.)) $0.00

C. Enhanced Silt Boom

1. Lineal feet of boom (ft)	0
2. Cost per foot of boom ($)	$0.00

Total (1. + 2.) $0.00

D. Silt Fence

1. Lineal feet of boom (ft)	0
2. Cost per foot of boom ($)	$0.00

Total (1. + 2.) $0.00

TOTAL for establishing or completing a system to minimize and control erosion and sedimentation (A. + B. + C.+ D.) $0.00

Note: The erosion control structures have been installed as of this writing.

4. *LEACHATE COLLECTION SYSTEM*

A. Pipe Trench Cost Per 100 L.F.

1. Excavation	0.00
2. 60 MIL HDPE Geomembrane Liner	0.00
3. 6" perf. HDPE pipe (SDR)	0.00
4. 10" perf. HDPE pipe (SDR)	0.00
5. 6 oz. geotextile overlay	0.00
6. Assume 1-6" cleanout/100 L.F.	0.00
7. Crushed stone filter media	0.00

Total Cost/100 L.F. = (1.+2.+3.+4.+5.+6.)	$0.00
Labor	0.00
Total Cost Per 100 L.F.	$0.00
Number of L.F.	0.00
TOTAL Cost of Leachate System	$0.00

5. *ESTABLISHING OR COMPLETING A SYSTEM TO COLLECT OR VENT GASES*

A. Installation Of Gas Vents

1. Materials	0.00
2. Equipment	0.00
3. Labor	0.00
4. Number of vents	0.00

Total (4.) (1. + 2. + 3.)	$0.00

B. Installation Of Gas Monitoring Wells

1. Materials	0.00
2. Equipment	0.00
3. Labor	0.00
4. Number of wells	0.00

Total (4.) x (1. + 2. + 3.)	$0.00
TOTAL for establishing a system to collect or vent gases (A. + B.)	$0.00

6. *ESTABLISHING OR COMPLETING GROUNDWATER/SURFACE WATER MONITORING SYSTEM*

A. Installation

1. Number of wells	0.00
2. Drilling cost	0.00
3. Well installation oversite	0.00
4. Equipment (e.g., pumps)	0.00
5. Labor	0.00
6. Establish surface sampling points	0.00

TOTAL for establishing or completing groundwater monitoring system (1.) x (2. + 3. + 4. + 5. +6.)	$0.00

7. *TOTAL CLOSURE COSTS (Cell 1)*

Sum of TOTALS For Sections (1. through 6.)	$48,106.00

WORKSHEET B
POST CLOSURE ACTIVITIES for the Central Pike Class IV Landfill
Civil and Environmental Consultants
Cost Estimate - Postclosure for year 1

Notes:

1. *This worksheet is to be submitted as part of the C/PC Plan.*
2. *This facility will be maintained and monitored for 30 years after final closure for Class I and II landfills and 2 years after final closure for Class III and IV landfills.*
3. *Fill in blanks for all activities which apply.*
4. *All costs are to be calculated on an ANNUAL BASIS.*

1. *Surveying inspections to confirm final grade and drainage are maintained.*

A. Transportation	50.00
B. Labor	1200.00
TOTAL for surveying inspections (A. + B.)	$1,250.00

2. *Maintain healthy vegetation.*

A. Transportation	30.00
B. Labor	50.00
C. Seeding	50.00
D. Fertilizing	50.00
E. Mulching	25.00
G. Mowing	35.00
H. Number of Acres	8.00
TOTAL for maintaining healthy vegetation (A. + B. + C. + D. + E. + F. + G.) x (H.)	$1,920.00

3. *Maintain the drainage facilities, sediment ponds and erosion/sedimentation control measures.*

A. Transportation	0.00
B. Labor	300.00
C. Cleaning out of systems	300.00

D. Repair of gullies or rills

1. Soil acquisition

a. Quantity (yd ^ 3)	100.00
b. Purchase unit cost ($/yd ^ 3)	2.00
c. Purchase cost (a. x b.)	200.00
d. Delivery unit cost ($/yd ^ 3)	1.50
e. Deliver cost (a. x d.)	150.00
Total 1 (c. + e.)	$350.00

3. *Maintain the drainage facilities, sediment ponds and erosion/sedimentation control measures.*

D. Repair of gullies or rills

2. Placement/spreading/compaction	300.00
3. Revegetation	300.00
Total D (1. + 2. + 3.)	$950.00
TOTAL For Maintaining Drainage (A. + B. + C. + D.)	$1,550.00

4. *Maintain and monitor the leachate collection, removal, and treatment system*

A. Treatment of leachate

1. On-site

a. Quantity (cy)	0.00
b. Treatment unit cost ($/cy)	0.00
c. Treatment cost (a.x b.)	0.00
d. Sewer discharge unit cost	0.00
e. Discharge cost (a.x d.)	0.00
TOTAL 1 On-Site (c. + e.)	$0.00

2. Off-Site

a. Quantity (cy)	0.00
b. Hauling unit cost ($/cy)	0.00
c. Hauling cost (a.x b.)	0.00
d. Treatment unit cost ($/cy)	0.00
e. Treatment cost (a.x d.)	0.00
TOTAL 2 (c. + e.)	$0.00
TOTAL (1 or 2 Total)	$0.00

B. Maintenance of leachate collection system

1. Transportation	0.00
2. Labor	0.00
3. Repairs/Materials (e.g. below)	
a. Pumps	0.00
b. Cleaning out system	0.00
c. Leak detection	0.00
d. Other	0.00
TOTAL 3 (a.+ b.+ c.+ d.)	$0.00
TOTAL (1.+ 2.+ 3.)	$0.00
TOTAL for monitoring and maintaining leachate system (A.+ B.)	$0.00

5. *Maintain and monitor the gas collection or venting system*

A. Transportation	0.00
B. Labor	0.00
C. Repairs/Materials (e.g. below)	
1. Cleaning	0.00
2. Caps	0.00
3. Other	0.00
TOTAL (1.+ 2.+ 3.)	$0.00
TOTAL for maintaining and monitoring gas control system (A.+ B.+ C.)	0.00

6. *Maintain and monitor the groundwater and/or surface water monitoring system.*

A. Monitoring of groundwater systems:

1. Number of wells/springs/blanks	0
2. Number of samples/well/year	0
3. Unit. cost of analysis	$0
4. Cost of sampling + analysis (1. x 2. x 3.)	$0
5. Labor cost per well	$0
6. Labor costs (1. x 5.)	$0
7. Report Preparation	$0
8. Statistical Analysis	$0
TOTAL A (4. + 6.+ 7. + 8.)	$0.00

B. Inspection and maintenance of system:

1. Transportation	0.00
2. Labor	0.00
3. Repairs/materials	
a. Caps	0.00
b. Tubing	0.00
c. Pumps	0.00
d. Well replacement	0.00
e. Other	0.00
Total 3 (a. + b.+ c. + d. + e.)	$0.00
TOTAL B (1. + 2. + 3.)	$0.00
TOTAL For Maintaining and Monitoring Groundwater Systems (A. + B.)	$0.00

7. *TOTAL POST-CLOSURE COSTS*

Annual Basis: (Sum of Sections 1. thru 6.)	$4,720.00